CLAIMS

1. A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

detecting at least one of actual vehicle acceleration and a wheel speed difference;

5    comparing said at least one of said actual vehicle acceleration and said wheel speed difference to at least one of a predetermined vehicle acceleration and a predetermined wheel speed difference to detect vehicle wheel slip; and

reducing wheel torque in response to said detected wheel

10  slip.


2. The method of claim 1 wherein said comparing step further includes:

detecting a wheel speed acceleration; and

comparing said wheel speed acceleration to a predetermined

5   wheel speed acceleration to detect wheel slip.


3. The method of claim 1 further comprising:

comparing a non-driven wheel speed to a threshold non-driven wheel speed value and a trans throttle value to a threshold throttle value to obtain a comparison result; and

5    selecting a wheel slip detection method based on said comparison result.

4. The method of claim 1 wherein said step of reducing wheel torque comprises accessing a table of torque reduction values based on input pulley speed and at least one of an acceleration error and a wheel speed difference.

5. The method of claim 1 further comprising:

specifying a transmission speed ratio based on a current vehicle speed; and

providing a line pressure in the transmission based on the

5    specified speed ratio.

6. The method of claim 1 further comprising:

determining a first torque reduction amount based on at least one of acceleration error and input pulley speed;

determining a second torque reduction amount based on at

5    least one of input pulley speed and speed difference between driven and non-driven wheels; and

reducing wheel torque using a lesser of the reduction amounts.

7. A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

detecting a non-driven wheel speed and a trans throttle position;

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5          comparing said non-driven wheel speed and said trans

throttle position to a predetermined non-driven wheel speed and a

predetermined trans throttle position; and

selecting one of a plurality of wheel slip detection methods

based on said comparing step.


8.  The method of claim 7 further comprising performing said

plurality of wheel slip detection methods.


9.  The method of claim 7 wherein a first wheel slip detection

method detects a speed difference of driven and non-driven wheels

and compares said speed difference of driven and non-driven wheels

to a predetermined difference, and wherein a second wheel slip

5      detection method detects vehicle acceleration and compares said

vehicle acceleration to a predetermined vehicle acceleration.


10. The method of claim 9 wherein comparing said speed

difference further includes:

detecting a driven wheel speed acceleration; and

comparing said driven wheel speed acceleration to a

5      predetermined driven wheel speed acceleration.


11. The method of claim 7, further comprising applying a

torque reduction to a wheel based on said selected wheel slip detection

method.

12. The method of claim 7 further comprising reducing a wheel torque based on a result of the selected wheel slip detection method.

13. The method of claim 12 wherein reducing a wheel torque comprises using an input pulley speed and a speed difference between driven and non-driven wheels to define a torque reduction.

14. The method of claim 12 wherein reducing a wheel torque comprises using an acceleration error and an input pulley speed to define a torque reduction.

15. A vehicle having at least one non-driven wheel speed sensor and comprising a processor configured to control traction, the processor configured to:

detect at least one of vehicle acceleration and a wheel speed

5    difference;

compare at least one of said vehicle acceleration and said wheel speed difference to at least one of a predetermined vehicle acceleration and a predetermined wheel speed difference to detect vehicle wheel slip; and

10        reduce wheel torque in response to said detected wheel slip.

16. The vehicle of claim 15 wherein the processor is further configured to:

detect a wheel speed acceleration; and

compare said wheel speed acceleration to a predetermined

5    wheel speed acceleration to detect wheel slip.

17. The vehicle of claim 15 wherein the processor is further configured to:

compare a non-driven wheel speed to a threshold non-driven

wheel speed value and a trans throttle value to a threshold throttle

5    value to obtain a comparison result; and

select a wheel slip detection method based on said

comparison result.

18. The vehicle of claim 15 wherein the processor is further configured to access a table of torque reduction values based on input pulley speed and one of an acceleration error and a wheel speed difference.

19. The vehicle of claim 15 wherein the processor is further configured to:

specify a transmission speed ratio based on a current vehicle

speed; and

5            specify a line pressure in the transmission based on the

specified speed ratio.

20. The vehicle of claim 15 wherein the processor is further configured to:

determine a first torque reduction amount based on at least one of acceleration error and input pulley speed;

5            determine a second torque reduction amount based on at least one of input pulley speed and speed difference between driven and non-driven wheels; and

reduce wheel torque using a lesser of the reduction amounts.